

# **EXHIBIT 15**

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**Subject:** NAT commands for California  
**Received(Date):** 9 Apr 96 19:39:14 GMT

Here are the commands for working with NAT on the router (aka RAT):

#### 4.1 Interface Configuration Commands

##### o Interface config commands:

```
ip nat { inside | outside }
```

Interfaces need to be marked whether they are on the inside or the outside. Only packets arriving on a marked interface will be subject to translation.

#### 4.2 Global Configuration Commands

##### o Defining a pool

```
ip nat pool <name> <start-ip> <end-ip> { netmask <netmask> |  
                                           prefix-length <prefix-length> }  
      [ type { rotary } ]
```

Defines a pool of addresses using start address, end address, and netmask or prefix length. These address will be allocated as needed.

##### o Enabling translation of inside source addresses

```
ip nat inside source { list <acl> pool <name> [ overload ] |  
                      static <local-ip> <global-ip> }
```

The first form enables dynamic translation. Packets from addresses that match the simple access-list will get translated using global addresses allocated from the named pool. The optional keyword "overload" enables port translation for UDP and TCP. The second form of the command sets up a single static translation.

##### o Enabling translation of inside destination addresses

```
ip nat inside destination { list <acl> pool <name> |  
                           static <global-ip> <local-ip> }
```

This command is similar to the source translation command. For dynamic destination translation to make any sense, the pool should be a rotary-type pool.

##### o Enabling translation of outside source addresses

```
ip nat outside source { list <acl> pool <name> |  
                       static <global-ip> <local-ip> }
```

The first form enables dynamic translation. Packets from addresses that match the simple access-list will get translated

using local addresses allocated from the named pool. The second form of the command sets up a single static translation.

#### o Configuring translation timeouts

```
ip nat translation timeout <seconds>
```

Dynamic translations time out after some time of non-use. When port translation is not configured, translation entries time out after 24 hours. This time can be adjusted with the above command.

```
ip nat translation udp-timeout <seconds>
```

```
ip nat translation dns-timeout <seconds>
```

```
ip nat translation tcp-timeout <seconds>
```

```
ip nat translation finrst-timeout <seconds>
```

When port translation is configured, there is finer control over translation entry timeouts since each entry contains more context about the traffic that is using it. Non-DNS UDP translations time out after 5 minutes, while DNS times out in 1 minute. TCP translations time out in 24 hours, unless a RST or FIN is seen on the stream, in which case it will time out in 1 minute.

### 4.3 Exec Commands

#### o Showing active translations

```
show ip nat translations [ verbose ]
```

#### o Showing translation statistics

```
show ip nat statistics
```

#### o Clearing dynamic translations

```
clear ip nat translation *
```

```
clear ip nat translation <global-ip>
```

```
clear ip nat translation <global-ip> <local-ip> <proto> <global-port>  
    <local-port>
```

All dynamic translations can be cleared with the first command. The second command clears a simple translation, while the third clears an extended translation.

#### o Debugging

```
debug ip nat [ <list> ] [ detailed ]
```

### 4.4 Example Configurations

The following configuration would translate between inside hosts addressed from either the 192.168.1.0 or 192.168.2.0 nets to the globally-unique 171.69.233.208/28 network.

```
ip nat pool net-208 171.69.233.208 171.69.233.223 prefix-length 28  
ip nat inside source list 1 pool net-208
```

```

!
interface Ethernet0
 ip address 171.69.232.182 255.255.255.240
 ip nat outside
!
interface Ethernet1
 ip address 192.168.1.94 255.255.255.0
 ip nat inside
!
access-list 1 permit 192.168.1.0 0.0.0.255
access-list 1 permit 192.168.2.0 0.0.0.255

```

The following configuration would translate between inside hosts addressed from the 9.114.11.0 net to the globally-unique 171.69.233.208/28 network. Further, packets from outside hosts addressed from the 9.114.11.0 net (the "true" 9.114.11.0 net) will be translated to appear to be from net 10.0.1.0/24.

```

ip nat pool net-208 171.69.233.208 171.69.233.223 prefix-length 28
ip nat pool net-10 10.0.1.0 10.0.1.255 prefix-length 24
ip nat inside source list 1 pool net-208
ip nat outside source list 1 pool net-10
!
interface Ethernet0
 ip address 171.69.232.182 255.255.255.240
 ip nat outside
!
interface Ethernet1
 ip address 9.114.11.39 255.255.255.0
 ip nat inside
!
access-list 1 permit 9.114.11.0 0.0.0.255

```